

REMARKS

A. Claims

No claims have been amended. Claims 36-37 have been added. Claims 1, 2, 4-6, 8, 10-11, 18-22, and 26-37 are pending in the application.

B. Amendments to the Figures

Figure 7 has been added to show two modules coupled in series. No new matter has been added. Support for Figure 7 can be found, for example, in Figure 4 and in the Applicant's specification at page 13, lines 16-20.

C. Amendments to the Specification

The Specification has been amended on page 13, at the paragraph beginning on line 16. No new matter has been added.

D. Section 112 Rejections

The Office Action rejected claims 26-28 under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant respectfully asserts enabling support for claims 26-28 can be found, for example, in Figure 4 and in the specification at page 13, lines 16-20. However, for further clarity, new Figure 7 has been added to show two modules coupled in series. Applicant respectfully requests the Examiner withdraw the rejection as to claims 26-28.

The Office Action also states: "The spec and fig. 4 lack proper enablement with regard to feature 430. Is part 430 attached to module 425?" In response, Applicant

respectfully submits that part 430 is shown, in the embodiment shown in Figure 4, to be attached to the module.

E. Section 103(a) Rejections

The Office Action rejected claims 1, 2, 4-6, 8, 10, 11, 18-22 under 35 U.S.C. § 103(a) as being unpatentable over Amberg et al. (U.S. Patent 6,075,704) (hereinafter “Amberg”) in view of Broeksteeg (U.S. Patent 5,066,236) (hereinafter “Broeksteeg”), in further view of Provencher et al. (U.S. Patent 5,860,816) (hereinafter “Provencher”), in further view of HDM (hereinafter “HDM”), in further view of Weber et al. (U.S. Patent 4,820,169) (hereinafter “Weber”). Applicant respectfully disagrees with the rejection.

Applicant respectfully reasserts that the Examiner has not presented a prima facie case for combining Amberg, Broeksteeg, Provencher, HDM, and Weber. As stated in the MPEP §2142:

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure. In re Vaack, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (emphasis added)

Applicant respectfully submits that it appears the Examiner is using impermissible hindsight to combine components of the prior art together in a piecemeal fashion. There appears to be no suggestion or motivation in the references or in the knowledge generally available to combine Amberg, Broeksteeg, Provencher, HDM, and Weber. For example, the cited references do not appear to disclose, teach, or suggest using power and guide modules with wafers as recited in claim 1. As stated in MPEP §2141.02: “A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would

lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984)” The absence of power and guide modules with a wafer in the cited references appears to teach away from the use of power and guide modules with wafers.

Furthermore, Broeksteeg, Provencher, HDM, and Weber appear to teach connectors for connecting boards perpendicular to each other. The Examiner states: “While HDM, etc are for perpendicularly arranged pcbs the change to coplanar circuit boards would be an obvious design variations requiring only that both connector sets include terminals bent like those of Broeksteeg, fig. 5 (Office Action, page 4).” However, bending both connector sets in Broeksteeg, Provencher, HDM, or Weber would make the connectors unsatisfactory for their intended purpose. For example, the cited references appear to depend on coupling a board perpendicular to another board and away from the edge of the board to allow multiple boards to be coupled to the board. As stated in the MPEP §2143.01: “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).”

Applicant submits claims 1, 10, and 18 and claims 2, 4-6, 8 and 11 and 19-22, 30 dependent on claims 1, 10, and 18, respectfully, are allowable for at least the above reasons.

Applicant also respectfully submits that the cited references do not appear to disclose “the first board is at least one of an I/O board and a system board, and wherein the second board is an expander board” as recited in claim 6 or “wherein the expander board couples the first board to a switch” as recited in claim 11. Applicant asserts claims 6 and 11 are also allowable for at least the above reason.

The Office Action has rejected claims 26-35 under 35 U.S.C. 103(a) as being unpatentable over Broeksteeg in view of Chen et al. (U.S. Patent No. 5,472,354)

(hereinafter “Chen”), in further view of Weber, in further view of HDM, in further view of Masuda et al. (U.S. Patent No. 5,616,034) (hereinafter “Masuda”), in further view of Dent (U.S. Patent No. 5,793,617) (hereinafter “Dent”), in further view of Siwinski (U.S. Patent No. 5,116,239) (hereinafter “Siwinski”). Applicant respectfully disagrees with the rejection.

Applicant respectfully reasserts that the Examiner has not presented a prima facie case for combining Broeksteeg, Chen, Weber, HDM, Masuda, Dent, and Siwinski. There appears to be no suggestion or motivation in the references or in the knowledge generally available to combine Broeksteeg, Chen, Weber, HDM, Masuda, Dent, and Siwinski. In addition, the references teach away from each other because each depends on elements for making different types of connections. For example, Broeksteeg and HDM teach connectors for connecting a printed circuit board to a backplane while Masuda teaches a connector for a power supply apparatus. In addition, Dent teaches a connector for a compact expansion card, and Siwinski teaches a connector for a cable. The Examiner states: “As to use of Masuda and Dent, it is asserted that analogousness is adequate since these patents are used only to teach use of connectors to deliver different voltages (Office Action, page 4).” While Applicant respectfully disagrees with the Examiner that Masuda and Dent are adequately analogous, Applicant also respectfully points out that the Examiner has not addressed the Applicant’s assertion that the remaining references cited are not analogous. Applicant asserts claim 26 and claims 27-29 dependent on claim 26 are allowable for at least the above reasons.

Furthermore, neither Broeksteeg, Chen, Weber, HDM, Masuda, Dent, or Siwinski appear to disclose, teach, or suggest “the conductive layer is coupled to one or more compliant pins that contract into one or more respective holes on an expander board to secure the one or more wafers to the expander board (emphasis added)” as recited in claim 31. None of the cited references appears to teach these pins for securing a wafer to an expander board. In addition, Broeksteeg teaches connectors for connecting a printed circuit board to a backplane, not to “couple the expander board and a circuit board substantially in parallel” as recited in claim 31. Therefore, the cited references do not

appear to teach all of the elements of claim 31. Applicant asserts claim 31 and claims 32-35 dependent on claim 31 are allowable for at least the above reasons.

The Office Action has rejected claims 18-22 under 35 U.S.C. 103(a) as being unpatentable over Amberg, in view of Broeksteeg, in further view of Provencher, in further view of HDM, in further view of Weber, in further view of Masuda, in further view of Dent. The Applicant respectfully disagrees with the rejection.

There is no suggestion or motivation in the references or in the knowledge generally available to combine Amberg, Broeksteeg, Provencher, HDM, Weber, Masuda, and Dent. For example, as discussed above, the references teach away from each other. Applicant asserts claim 18 and claims 19-22 dependent on claim 18 are allowable for at least the above reasons.

F. New Claims

Applicant respectfully submits that the cited art does not appear to disclose, teach, or suggest “wherein the guide module on the connector comprises a pin, and wherein the pin is insertable through a hole in the joinder module of a second connector to couple the connector to the second connector” as recited in new claim 36 or “wherein a guide module on the second connector comprises a pin, and wherein the pin on the second connector is insertable through a hole in the joinder module of a third connector to couple the second connector to the third connector” as recited in claim 37. Applicant asserts claims 36-37 are allowable for at least the above reasons.

G. CONCLUSION

In light of the foregoing remarks, Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

The Commissioner is authorized to charge any fees which may be required, or credit any overpayment, to Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C. Deposit Account No. 50-1505\5681-49300\BNK.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'B. Noël Kivlin', with a long horizontal flourish extending to the right.

B. Noël Kivlin
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